

Title (en)

Camshaft phaser with independent phasing and lock pin control

Title (de)

Nockenwellenversteller mit unabhängigem Phasen- und Spannstiftregler

Title (fr)

Phaseur d'arbre à cames avec mise en phase indépendante et contrôle de goupille de sécurité

Publication

EP 2508723 A2 20121010 (EN)

Application

EP 12163017 A 20120403

Priority

US 201113082458 A 20110408

Abstract (en)

A camshaft phaser is provided for varying the phase relationship between a crankshaft and a camshaft in an engine. The camshaft phaser includes a stator having lobes. A rotor disposed within the stator includes vanes interspersed with the stator lobes to define alternating advance and retard chambers. A lock pin is provided for selective engagement with a lock pin seat for preventing relative rotation between the rotor and stator. Pressurized oil disengages the lock pin from the seat while oil is vented for engaging the lock pin with the seat. A phase relationship control valve is located coaxially within the rotor to control the flow of oil into and out of the chambers. A lock pin oil passage communicates oil to and from the lock pin based on input from a lock pin control valve located outside of the camshaft phaser. The control valves are operational independent of each other.

IPC 8 full level

F01L 1/344 (2006.01)

CPC (source: EP US)

F01L 1/3442 (2013.01 - EP US); **F01L 2001/34433** (2013.01 - EP US); **F01L 2001/34459** (2013.01 - EP US); **F01L 2001/34466** (2013.01 - EP US); **F01L 2001/34483** (2013.01 - EP US)

Citation (applicant)

- US 2010288215 A1 20101118 - TAKEMURA YUICHI [JP], et al
- US 2004055550 A1 20040325 - SMITH FRANKLIN R [US]
- US 91233810 A 20101026

Cited by

CN106939807A; EP2743466A1; CN110832172A; CN103867247A; CN105143616A; US9506380B2; US9534515B2; US9856759B2; WO2014173398A1; WO2019057717A3; US10760454B2; WO2014086344A1; WO2014173400A1

Designated contracting state (EPC)

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Designated extension state (EPC)

BA ME

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